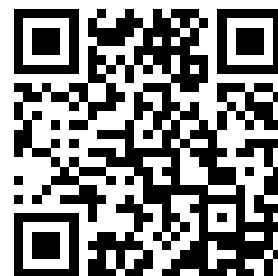

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1978

U.S. CIVIL AIRMEN STATISTICS



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OFFICE OF MANAGEMENT SYSTEMS

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PREFACE

The U.S. Civil Airmen Statistics is an annual study published to meet the demands of FAA, other government agencies, and industry for more detailed airmen statistics than those published in other FAA reports.

Statistics pertaining to airmen, both pilot and nonpilot, were obtained from the official airman certification records maintained at the FAA Aeronautical Center, Oklahoma City, Oklahoma.

This study was prepared in the Office of Management Systems, Information and Statistics Division, Information Operations Branch (AMS-220), by Patricia Wilson.

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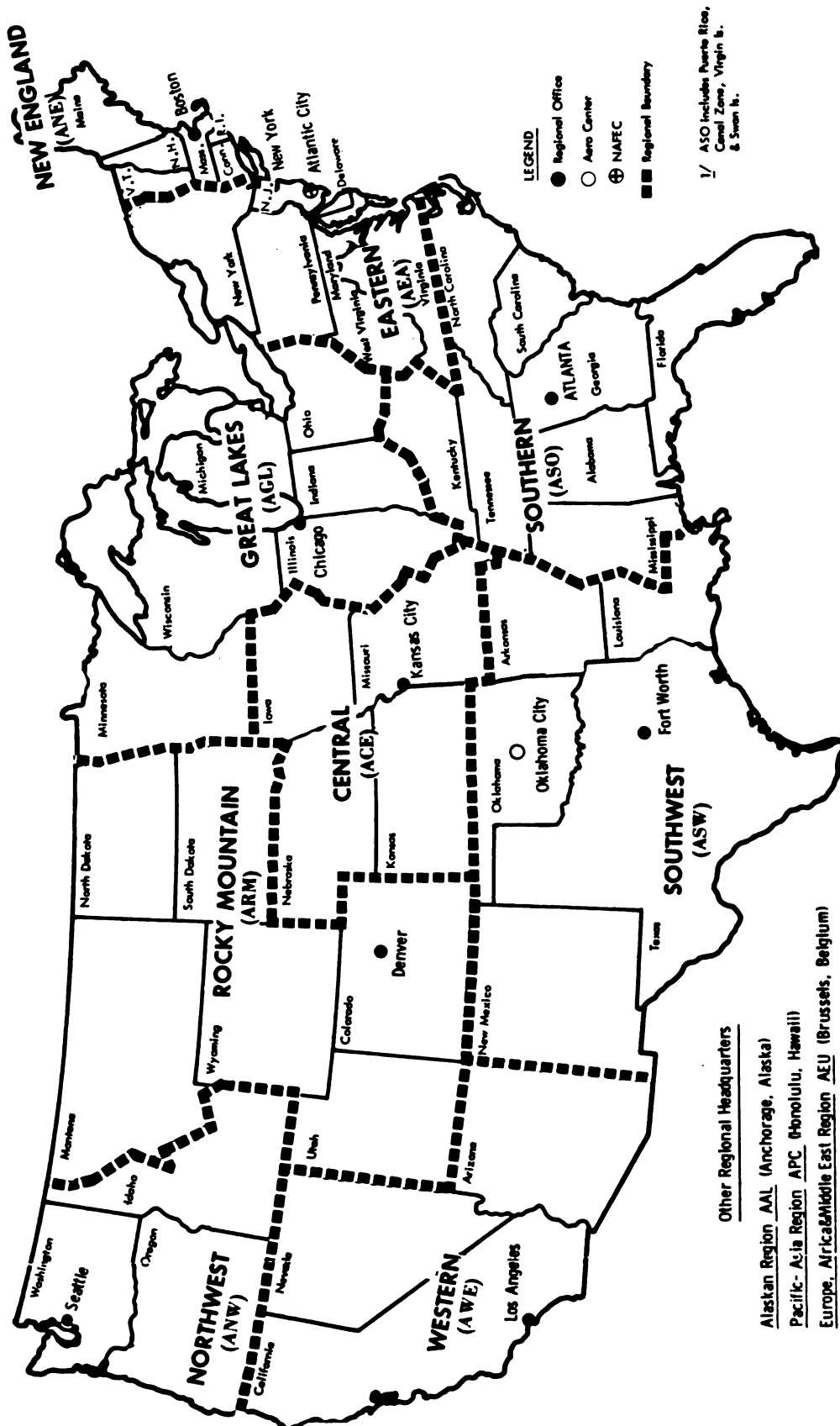
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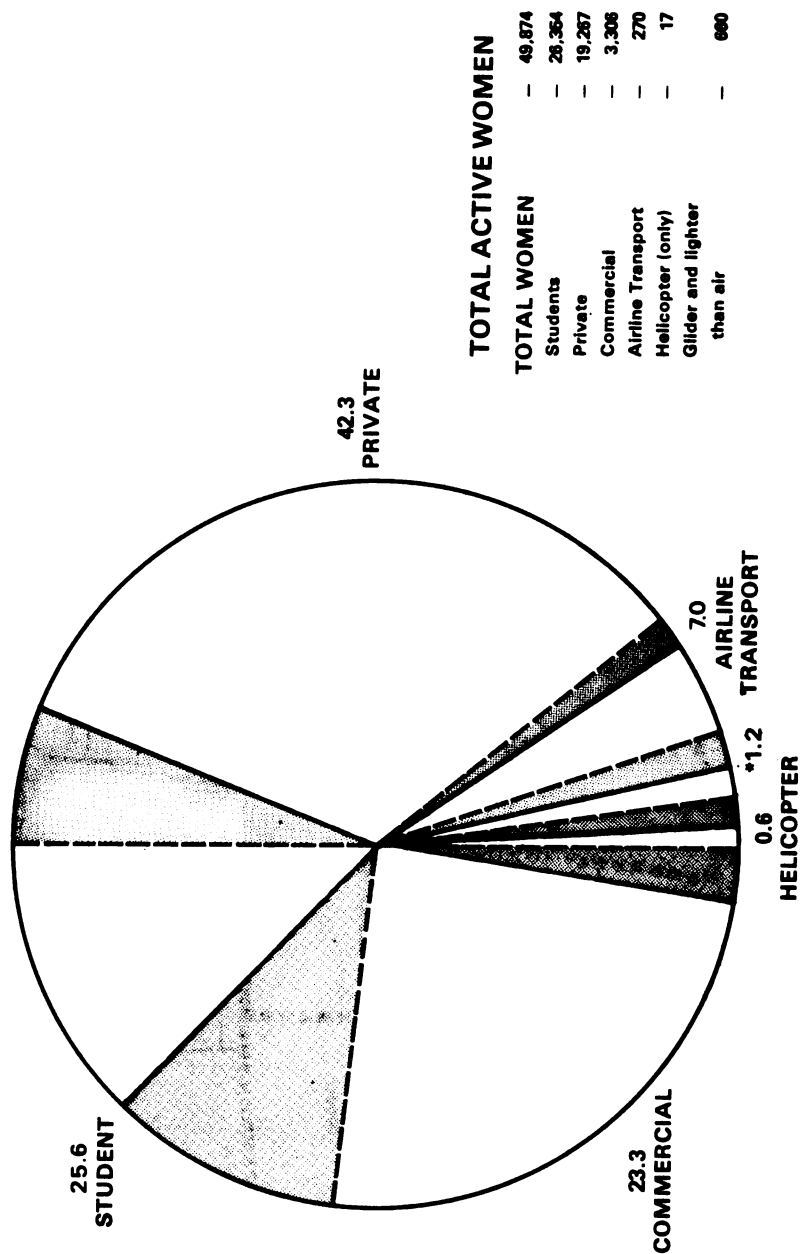
Department of Transportation
Federal Aviation Administration

FAA REGIONAL BOUNDARIES

Including Locations of Regional Headquarters & Centers



**Figure 2. Active Pilot Certificates Held:
December 31, 1978**



I. ACTIVE PILOT CERTIFICATES HELD

TABLE 1

ACTIVE PILOT CERTIFICATES HELD: DECEMBER 31, 1969-1978

| Category | 1969 | 1970 | 1971 | 1972 | 1973 ^{3/} | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---------|---------|---------|-----------|--------------------|---------|---------|---------|---------|---------|
| Pilot--total | 720,028 | 732,729 | 741,009 | 750,869 | 714,607 | 733,728 | 728,187 | 744,246 | 719,238 | 798,833 |
| Student | 203,520 | 195,861 | 186,428 | 181,477 | 181,905 | 180,795 | 176,978 | 188,801 | 138,816 | 204,874 |
| Private | 299,491 | 303,779 | 312,656 | 321,413 | 298,921 | 305,848 | 305,863 | 309,005 | 327,424 | 337,644 |
| Commercial | 176,585 | 186,821 | 192,409 | 196,228 | 182,444 | 192,425 | 189,342 | 187,801 | 188,763 | 185,833 |
| Airline transport | 31,442 | 34,430 | 35,949 | 37,714 | 38,139 | 41,002 | 42,592 | 45,072 | 50,149 | 55,881 |
| Helicopter (only) | 4,286 | 6,677 | 7,992 | 7,987 | 5,968 | 5,647 | 4,932 | 4,804 | 4,819 | 4,874 |
| Glider (only) ^{1/} * | 2,627 | 3,114 | 3,571 | 4,080 | 4,288 | 4,824 | 5,348 | 5,789 | 6,208 | 6,541 |
| Lighter-than-air ^{1/} * | 2,077 | 2,047 | 2,004 | 1,970 | 2,942 | 3,187 | 3,132 | 2,974 | 3,059 | 3,186 |
| Nonpilot--total | 269,775 | 289,681 | 307,057 | r/315,348 | 304,747 | 314,394 | 323,934 | 334,681 | 348,584 | 362,350 |
| Mechanic ^{1/} | 170,716 | 184,647 | 193,295 | 201,700 | 193,337 | 198,863 | 205,436 | 212,303 | 220,768 | 228,743 |
| Parachute rigger ^{1/} | 6,070 | 6,424 | 6,839 | 7,287 | 6,941 | 7,900 | 8,327 | 8,718 | 8,994 | 9,200 |
| Ground instructor ^{1/} | 41,234 | 44,176 | 46,145 | 48,450 | 46,827 | 49,249 | 51,365 | 53,464 | 55,717 | 57,738 |
| Dispatcher ^{1/} | 5,026 | 5,293 | 5,480 | 5,637 | 5,527 | 5,576 | 5,741 | 5,838 | 5,972 | 6,161 |
| Control tower operator | 19,851 | 21,032 | 26,450 | r/23,353 | 23,250 | 23,342 | 23,956 | 24,584 | 25,107 | 25,388 |
| Flight navigator | 3,011 | 2,950 | 3,052 | 2,957 | 2,636 | 2,509 | 2,321 | 2,214 | 2,155 | 2,092 |
| Flight engineer | 23,867 | 25,159 | 25,796 | 25,964 | 26,229 | 26,955 | 26,788 | 27,560 | 29,871 | 33,028 |
| Flight instructor cer- tificates | 33,992 | 37,882 | 37,760 | 37,858 | 36,795 | 42,418 | 44,777 | 46,236 | 49,362 | 52,201 |
| Instrument ratings ^{2/} | 155,879 | 169,848 | 179,261 | 187,909 | 185,969 | 199,323 | 203,954 | 211,364 | 226,334 | 236,312 |

* Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination.

^{1/} Numbers represent all certificates on record. No medical examination required.

^{2/} Special ratings shown on pilot certificates, i.e., do not indicate additional certificates.

^{3/} The decrease in the number of airmen resulted from a purging of the airmen certification files. During this process, approximately 26,000 duplicates or faulty records were eliminated.

r/ Revised.

TABLE 2

WOMEN ACTIVELY ENGAGED IN AVIATION: DECEMBER 31, 1969-1978

| Category of Certificates Held | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pilot--total | 29,419 | 29,472 | 31,216 | 33,001 | 34,356 | 36,943 | 37,934 | 41,643 | 47,294 | 49,874 |
| Student | 16,055 | 15,787 | 16,417 | 17,053 | 18,593 | 19,298 | 19,600 | 22,254 | 25,705 | 26,354 |
| Private | 11,174 | 11,409 | 12,332 | 13,391 | 13,232 | 14,465 | 14,952 | 15,838 | 17,702 | 19,267 |
| Commercial | 1,824 | 1,897 | 2,032 | 2,196 | 2,083 | 2,596 | 2,733 | 2,857 | 3,090 | 3,306 |
| Airline transport | 76 | 79 | 88 | 101 | 95 | 116 | 137 | 160 | 193 | 270 |
| Helicopter (only) | 14 | 6 | 9 | 10 | 7 | 5 | 11 | 17 | 18 | 17 |
| Glider (only) 1/* | 111 | 141 | 169 | 201 | 216 | 271 | 301 | 352 | 391 | 433 |
| Lighter-than-air 1/* | 165 | 153 | 169 | 49 | 130 | 192 | 200 | 165 | 195 | 227 |
| Nonpilot--total | 2,912 | 3,078 | 3,413 | 3,594 | 3,074 | 3,471 | 3,809 | 4,252 | 4,716 | 5,135 |
| Mechanic 1/ | 269 | 302 | 322 | 349 | 284 | 315 | 360 | 422 | 505 | 600 |
| Parachute rigger 1/ | 449 | 461 | 470 | 483 | 336 | 495 | 504 | 516 | 535 | 544 |
| Ground Instructor 1/ | 1,917 | 2,006 | 2,081 | 2,166 | 1,960 | 2,139 | 2,249 | 2,369 | 2,525 | 2,682 |
| Dispatcher 1/ | 36 | 38 | 39 | 40 | 39 | 42 | 50 | 55 | 65 | 76 |
| Control tower operator | 222 | 271 | 501 | 556 | 453 | 473 | 638 | 874 | 1,044 | 1,151 |
| Flight engineer | 18 | 0 | 0 | 0 | 2 | 7 | 8 | 16 | 42 | 82 |
| Flight navigator | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Flight instructor | 560 | 589 | 646 | 664 | 618 | 834 | 945 | 1,054 | 1,238 | 1,458 |

NOTE: Instrument ratings not reported.

* Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination.

1/ No medical examination required.

TABLE 3
ACTIVE PILOT AND NONPILOT CERTIFICATES HELD, BY CLASS OF CERTIFICATE AND BY FAA REGION: DECEMBER 31, 1978

| Class of Certificate | Total | New England | Eastern | Great Lakes | Central | Southern | Southwest | Rocky Mountain | Western | Northwest | Alaskan | Pacific | Foreign |
|---|---------|-------------|---------|-------------|---------|----------|-----------|----------------|---------|-----------|---------|---------|---------|
| Total--all groups | 798,833 | 34,209 | 104,146 | 138,415 | 51,678 | 119,237 | 97,637 | 41,388 | 138,584 | 46,787 | 10,914 | 3,586 | 13,252 |
| Student pilots--total | 204,874 | 9,359 | 28,153 | 36,834 | 13,048 | 30,439 | 24,102 | 11,215 | 32,638 | 11,948 | 2,703 | 805 | 3,630 |
| Private pilots--total | 337,644 | 13,483 | 42,359 | 65,729 | 25,276 | 46,200 | 38,977 | 17,478 | 59,857 | 19,901 | 4,712 | 1,048 | 2,624 |
| Private airplane (only) | 329,393 | 13,132 | 40,997 | 64,477 | 24,896 | 44,899 | 38,079 | 17,098 | 58,292 | 19,404 | 4,639 | 978 | 2,502 |
| Private airplane, private glider | 4,113 | 227 | 789 | 666 | 153 | 520 | 390 | 181 | 929 | 177 | 24 | 23 | 34 |
| Private airplane, commercial glider | 564 | 36 | 112 | 83 | 12 | 52 | 43 | 46 | 136 | 30 | 2 | 8 | 5 |
| Private airplane, private gyroplane | 37 | 2 | 3 | 11 | 4 | 3 | 5 | 0 | 7 | 2 | 0 | 0 | 0 |
| Private airplane, private helicopter | 924 | 26 | 148 | 162 | 58 | 136 | 94 | 26 | 137 | 107 | 3 | 2 | 25 |
| Private airplane, private glider, private helicopter | 30 | 1 | 6 | 6 | 0 | 6 | 2 | 1 | 6 | 2 | 0 | 0 | 0 |
| Private airplane, commercial helicopter | 2,557 | 59 | 299 | 319 | 153 | 579 | 363 | 125 | 346 | 176 | 44 | 36 | 58 |
| Private airplane, private glider, commercial helicopter | 14 | 0 | 3 | 2 | 0 | 2 | 0 | 1 | 3 | 3 | 0 | 0 | 0 |
| Private airplane, commercial glider, commercial helicopter | 11 | 0 | 2 | 2 | 0 | 3 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| Private airplane, commercial gyroplane, commercial helicopter | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Commercial pilots--total | 185,833 | 7,436 | 24,287 | 27,059 | 10,581 | 30,962 | 25,666 | 9,230 | 32,175 | 10,637 | 2,730 | 1,140 | 3,930 |
| Commercial airplane (only) | 159,395 | 6,449 | 20,641 | 24,160 | 9,408 | 25,632 | 21,847 | 8,032 | 27,503 | 9,015 | 2,301 | 877 | 3,530 |
| Commercial airplane, private glider | 2,103 | 86 | 356 | 291 | 88 | 301 | 231 | 117 | 477 | 108 | 17 | 17 | 14 |
| Commercial airplane, commercial glider | 4,443 | 230 | 722 | 625 | 179 | 666 | 526 | 244 | 916 | 237 | 46 | 24 | 29 |
| Commercial airplane, commercial gyroplane, commercial glider | 4 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Commercial airplane, private helicopter | 177 | 9 | 13 | 35 | 7 | 34 | 14 | 4 | 37 | 19 | 3 | 0 | 2 |

TABLE 3 (Continued)
ACTIVE PILOTS AND NONPILOTS CERTIFICATES HELD, BY CLASS OF CERTIFICATE AND BY FAA REGION: DECEMBER 31, 1976

| Class of Certificate | Total | New England | Eastern | Great Lakes | Central | Southern | Southwest | Rocky Mountain | Western | Northwest | Alaskan | Pacific | Foreign |
|---|--------|-------------|---------|-------------|---------|----------|-----------|----------------|---------|-----------|---------|---------|---------|
| Commercial airplane, commercial glider private helicopter | 9 | 0 | 2 | 3 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Commercial airplane, commercial helicopter | 18,066 | 620 | 2,432 | 1,842 | 875 | 4,194 | 2,941 | 768 | 3,044 | 1,196 | 351 | 214 | 347 |
| Commercial airplane, private glider, commercial helicopter | 147 | 8 | 25 | 27 | 1 | 17 | 18 | 6 | 32 | 9 | 1 | 2 | 1 |
| Commercial airplane, commercial glider, commercial helicopter | 606 | 28 | 91 | 67 | 20 | 300 | 79 | 34 | 121 | 44 | 9 | 6 | 7 |
| Commercial airplane, commercial helicopter, commercial gyroplane | 32 | 3 | 0 | 3 | 2 | 7 | 5 | 1 | 9 | 2 | 0 | 0 | 0 |
| Commercial airplane, commercial gyroplane | 36 | 3 | 3 | 3 | 1 | 4 | 5 | 4 | 8 | 4 | 1 | 0 | 0 |
| Commercial airplane, commercial gyro- plane, commercial helicopter, commercial glider | 15 | 0 | 1 | 3 | 0 | 4 | 0 | 0 | 4 | 1 | 2 | 0 | 0 |
| Airline transport pilots--total | 55,081 | 3,225 | 6,981 | 6,838 | 2,221 | 9,434 | 7,199 | 2,469 | 11,016 | 2,635 | 667 | 439 | 2,737 |
| Airline transport airplane (only) | 55,331 | 3,192 | 6,892 | 6,791 | 2,204 | 9,357 | 7,119 | 2,469 | 10,908 | 2,601 | 648 | 435 | 2,715 |
| Airline transport airplane, airline transport helicopter | 550 | 33 | 89 | 47 | 17 | 77 | 80 | 20 | 108 | 34 | 19 | 4 | 22 |
| Rotorcraft (only) pilots--total | 4,874 | 119 | 628 | 412 | 218 | 1,213 | 915 | 191 | 519 | 287 | 80 | 75 | 217 |
| Private gyroplane | 5 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| Private helicopter | 290 | 4 | 49 | 49 | 23 | 41 | 31 | 8 | 37 | 32 | 1 | 3 | 12 |
| Commercial helicopter | 4,454 | 114 | 561 | 356 | 192 | 1,159 | 861 | 180 | 462 | 248 | 77 | 70 | 174 |
| Commercial helicopter, private glider glider | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Commercial helicopter, commercial gyroplane | 7 | 0 | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| Commercial helicopter, commercial gyroplane | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Airline transport helicopter | 113 | 1 | 15 | 5 | 2 | 10 | 20 | 2 | 17 | 7 | 2 | 1 | 31 |

TABLE 3 (Continued)
ACTIVE PILOTS AND NONPILOTS CERTIFICATES HELD, BY CLASS OF CERTIFICATE AND BY FAA REGION: DECEMBER 31, 1978

| Class of Certificate | Total | New England | Eastern | Great Lakes | Central | Southern | Southwest | Rocky Mountain | Western | Northwest | Alaskan | Pacific | Foreign |
|---|---------|-------------|---------|-------------|---------|----------|-----------|----------------|---------|-----------|---------|---------|---------|
| Glider (only)--total | 6,541 | 438 | 1,307 | 881 | 134 | 471 | 410 | 639 | 1,821 | 276 | 9 | 72 | 83 |
| Private glider | 5,474 | 348 | 1,087 | 742 | 94 | 401 | 318 | 535 | 1,572 | 238 | 6 | 61 | 72 |
| Commercial glider | 1,067 | 90 | 220 | 139 | 40 | 70 | 92 | 104 | 249 | 38 | 3 | 11 | 11 |
| Lighter-than-air | 3,186 | 149 | 431 | 662 | 200 | 518 | 368 | 146 | 558 | 103 | 13 | 7 | 31 |
| Total--all nonpilot | 362,350 | 18,054 | 61,802 | 46,154 | 19,495 | 56,162 | 43,665 | 13,297 | 70,361 | 15,660 | 3,449 | 2,797 | 11,454 |
| Mechanic ^{1/} | 228,743 | 11,573 | 41,907 | 28,144 | 13,207 | 32,740 | 27,177 | 7,186 | 46,052 | 9,323 | 2,157 | 1,930 | 7,347 |
| Parachute rigger ^{1/} | 9,200 | 393 | 1,516 | 1,203 | 428 | 1,652 | 1,030 | 567 | 1,424 | 693 | 118 | 52 | 124 |
| Ground instructor ^{1/} | 57,738 | 2,725 | 8,991 | 9,121 | 3,627 | 8,806 | 7,573 | 2,792 | 9,857 | 2,473 | 591 | 250 | 932 |
| Dispatcher ^{1/} | 6,161 | 134 | 1,392 | 440 | 133 | 1,005 | 315 | 150 | 918 | 174 | 109 | 107 | 1,284 |
| Control tower operator | 25,388 | 999 | 3,790 | 3,226 | 1,138 | 5,657 | 3,633 | 1,056 | 3,790 | 1,070 | 315 | 297 | 417 |
| Flight navigator | 2,092 | 227 | 401 | 67 | 12 | 294 | 90 | 48 | 673 | 137 | 8 | 20 | 115 |
| Flight engineer | 33,028 | 2,003 | 3,805 | 3,953 | 950 | 6,008 | 3,847 | 1,498 | 7,647 | 1,790 | 151 | 141 | 1,235 |
| Flight instructor certificates--total | 52,201 | 2,181 | 7,412 | 8,914 | 3,099 | 7,845 | 5,883 | 2,640 | 8,675 | 3,031 | 688 | 256 | 577 |
| Instrument ratings ^{2/} | 236,312 | 10,321 | 32,157 | 35,756 | 12,300 | 40,050 | 30,878 | 10,351 | 42,057 | 12,228 | 2,650 | 1,503 | 6,051 |

^{1/} Total ratings issued to date. These ratings retain their validity without periodic medical examinations.

^{2/} Special ratings shown on pilot certificates, i.e., do not indicate additional ratings.

**Figure 3. Total Active Pilots:
December 31, 1978**

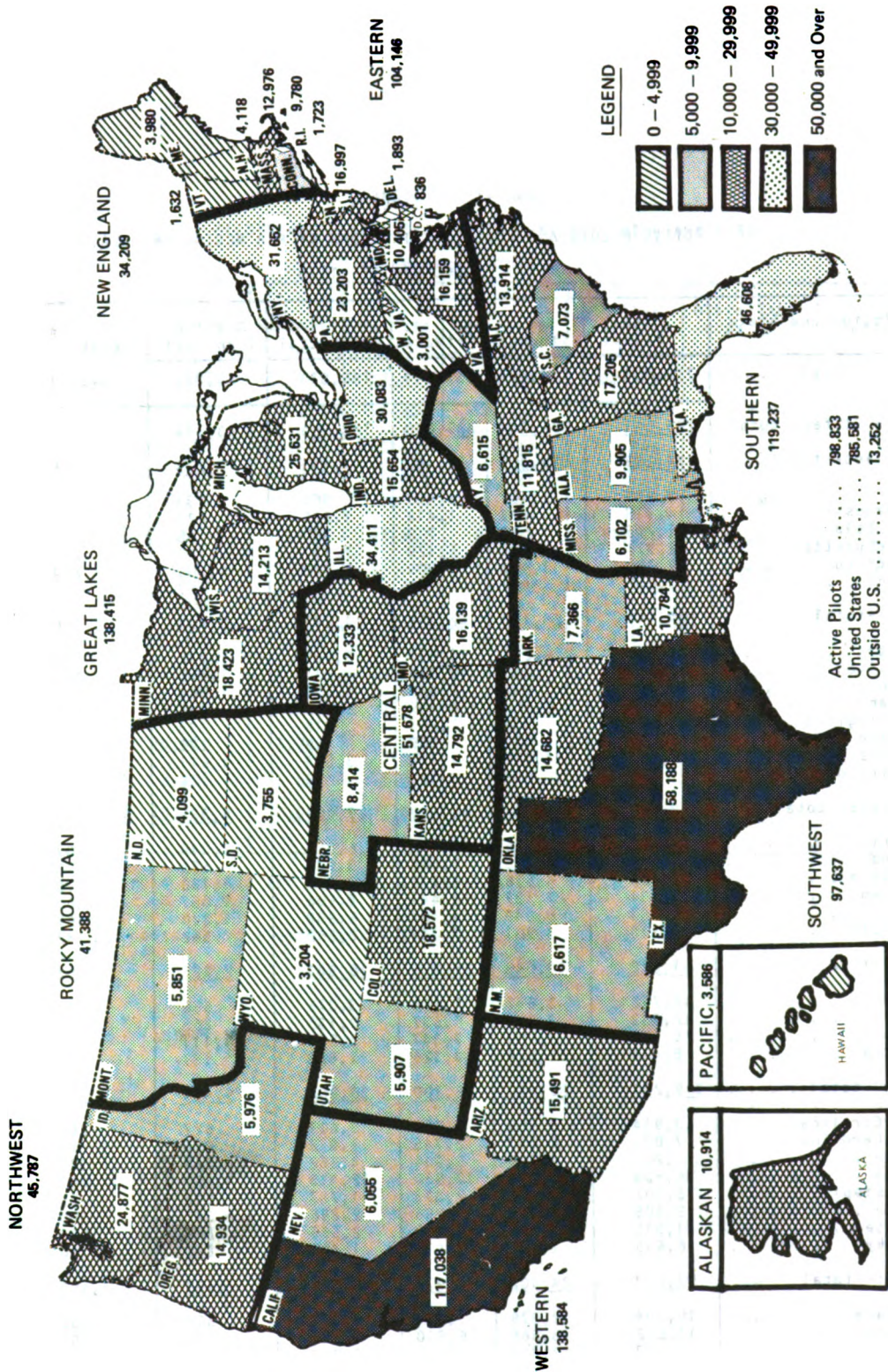


TABLE 4
ACTIVE PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE:
DECEMBER 31, 1978

| FAA Region and State | Total Pilots | Student | Private | Commercial | Airline Transport | Miscellan- eous 2/ | Flight Instructor _{3/} |
|-------------------------|-----------------|---------|---------|------------|----------------------|-----------------------|------------------------------------|
| Total | 798,833 1/ | 204,874 | 337,644 | 185,833 | 55,881 | 14,601 | 52,201 |
| United States--total | 785,581 | 201,244 | 335,020 | 181,903 | 53,144 | 14,270 | 51,624 |
| New England--total . . | 34,209 | 9,359 | 13,483 | 7,436 | 3,225 | 706 | 2,181 |
| Maine | 3,980 | 1,160 | 1,675 | 960 | 133 | 52 | 196 |
| New Hampshire | 4,118 | 977 | 1,412 | 1,026 | 621 | 82 | 234 |
| Rhode Island | 1,723 | 523 | 719 | 370 | 86 | 25 | 125 |
| Massachusetts | 12,976 | 3,879 | 5,429 | 2,577 | 792 | 299 | 818 |
| Connecticut | 9,780 | 2,403 | 3,509 | 2,148 | 1,506 | 214 | 703 |
| Vermont | 1,632 | 417 | 739 | 355 | 87 | 34 | 105 |
| Eastern--total | 104,146 | 28,153 | 42,359 | 24,287 | 6,981 | 2,366 | 7,412 |
| New York | 31,652 | 9,252 | 13,091 | 6,682 | 1,742 | 885 | 2,207 |
| Pennsylvania | 23,203 | 6,403 | 10,029 | 4,813 | 1,477 | 481 | 1,757 |
| Virginia | 16,159 | 3,847 | 5,631 | 5,171 | 1,203 | 307 | 1,038 |
| Maryland | 10,405 | 2,664 | 4,489 | 2,506 | 545 | 201 | 702 |
| West Virginia | 3,001 | 932 | 1,264 | 616 | 138 | 51 | 202 |
| Delaware | 1,893 | 407 | 809 | 469 | 179 | 29 | 159 |
| New Jersey | 16,997 | 4,410 | 6,718 | 3,824 | 1,671 | 374 | 1,300 |
| District of Columbia | 836 | 238 | 328 | 206 | 26 | 38 | 47 |
| Great Lakes--total . . | 138,415 | 36,834 | 65,729 | 27,059 | 6,838 | 1,955 | 8,914 |
| Illinois | 34,411 | 8,786 | 15,792 | 6,883 | 2,349 | 601 | 2,300 |
| Indiana | 15,654 | 4,385 | 7,565 | 3,034 | 500 | 170 | 1,031 |
| Minnesota | 18,423 | 4,576 | 8,779 | 3,743 | 1,150 | 175 | 1,000 |
| Michigan | 25,631 | 7,137 | 12,441 | 4,596 | 1,057 | 400 | 1,661 |
| Ohio | 30,083 | 8,049 | 14,109 | 6,238 | 1,220 | 467 | 2,101 |
| Wisconsin | 14,213 | 3,901 | 7,043 | 2,565 | 562 | 142 | 821 |
| Central--total | 51,678 | 13,048 | 25,276 | 10,581 | 2,221 | 552 | 3,099 |
| Kansas | 14,792 | 3,642 | 7,266 | 3,075 | 656 | 153 | 837 |
| Iowa | 12,333 | 3,279 | 6,537 | 2,135 | 265 | 117 | 669 |
| Missouri | 16,139 | 3,903 | 7,347 | 3,543 | 1,111 | 235 | 1,112 |
| Nebraska | 8,414 | 2,224 | 4,126 | 1,828 | 189 | 47 | 481 |
| Southern--total | 119,237 | 30,439 | 46,200 | 30,962 | 9,434 | 2,202 | 7,845 |
| North Carolina | 13,914 | 3,956 | 5,657 | 3,407 | 627 | 267 | 837 |
| South Carolina | 7,073 | 2,047 | 2,745 | 1,872 | 324 | 85 | 450 |
| Georgia | 17,205 | 4,199 | 5,909 | 4,522 | 2,259 | 316 | 1,050 |
| Florida | 46,608 | 11,038 | 17,910 | 12,413 | 4,550 | 697 | 3,111 |
| Mississippi | 6,102 | 1,665 | 2,373 | 1,787 | 212 | 65 | 367 |
| Alabama | 9,905 | 2,407 | 3,955 | 2,895 | 342 | 306 | 802 |
| Tennessee | 11,815 | 3,136 | 4,840 | 2,665 | 898 | 276 | 808 |
| Kentucky | 6,615 | 1,991 | 2,811 | 1,401 | 222 | 190 | 400 |
| Southwest--total . . . | 97,637 | 24,102 | 38,977 | 25,666 | 7,199 | 1,693 | 6,883 |
| Louisiana | 10,784 | 2,879 | 3,954 | 3,121 | 568 | 262 | 719 |
| Oklahoma | 14,682 | 3,665 | 6,810 | 3,409 | 631 | 167 | 993 |
| Texas | 58,188 | 13,881 | 22,275 | 15,498 | 5,495 | 1,039 | 4,267 |
| New Mexico | 6,617 | 1,652 | 2,902 | 1,643 | 254 | 166 | 428 |
| Arkansas | 7,366 | 2,025 | 3,036 | 1,995 | 251 | 59 | 476 |

TABLE 4 (Continued)
ACTIVE PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE:
DECEMBER 31, 1978

| FAA Region and State | Total Pilots | Student | Private | Commercial | Airline Transport | Miscellan- eous ^{2/} | Flight Instructor ^{3/} |
|------------------------|-----------------|---------------|---------------|---------------|----------------------|----------------------------------|------------------------------------|
| Rocky Mountain--total | <u>41,388</u> | <u>11,215</u> | <u>17,478</u> | <u>9,230</u> | <u>2,489</u> | <u>976</u> | <u>2,640</u> |
| Colorado | 18,572 | 4,810 | 6,900 | 4,326 | 1,804 | 732 | 1,346 |
| Wyoming | 3,204 | 1,015 | 1,431 | 614 | 117 | 27 | 188 |
| Utah | 5,907 | 1,601 | 2,677 | 1,217 | 298 | 114 | 344 |
| Montana | 5,851 | 1,559 | 2,846 | 1,252 | 153 | 41 | 323 |
| North Dakota | 4,099 | 1,158 | 1,854 | 1,014 | 54 | 19 | 227 |
| South Dakota | 3,755 | 1,072 | 1,770 | 807 | 63 | 43 | 212 |
| Western--total | <u>138,584</u> | <u>32,638</u> | <u>59,857</u> | <u>32,175</u> | <u>11,016</u> | <u>2,898</u> | <u>8,675</u> |
| California | 117,038 | 27,312 | 51,008 | 26,913 | 9,365 | 2,440 | 7,264 |
| Arizona | 15,491 | 3,921 | 6,463 | 3,818 | 905 | 384 | 986 |
| Nevada | 6,055 | 1,405 | 2,386 | 1,444 | 746 | 74 | 425 |
| Northwest--total . . . | <u>45,787</u> | <u>11,948</u> | <u>19,901</u> | <u>10,637</u> | <u>2,635</u> | <u>666</u> | <u>3,031</u> |
| Washington | 24,877 | 5,956 | 10,086 | 6,360 | 2,031 | 444 | 1,762 |
| Oregon | 14,934 | 4,353 | 7,085 | 2,941 | 393 | 162 | 896 |
| Idaho | 5,976 | 1,639 | 2,730 | 1,336 | 211 | 60 | 373 |
| Alaskan region--total | <u>10,914</u> | <u>2,703</u> | <u>4,712</u> | <u>2,730</u> | <u>667</u> | <u>102</u> | <u>688</u> |
| Pacific region--total | <u>3,586</u> | <u>805</u> | <u>1,048</u> | <u>1,140</u> | <u>439</u> | <u>154</u> | <u>256</u> |
| Outside U.S.--total | <u>13,252</u> | <u>3,630</u> | <u>2,624</u> | <u>3,930</u> | <u>2,737</u> | <u>331</u> | <u>577</u> |

NOTE: Puerto Rico and Virgin Islands are included in Outside U.S. total.

^{1/} Includes Outside U.S.

^{2/} Includes glider, helicopter, and lighter-than-air.

^{3/} Not included in total.

**Figure 4. Total Women Pilots:
December 31, 1978**

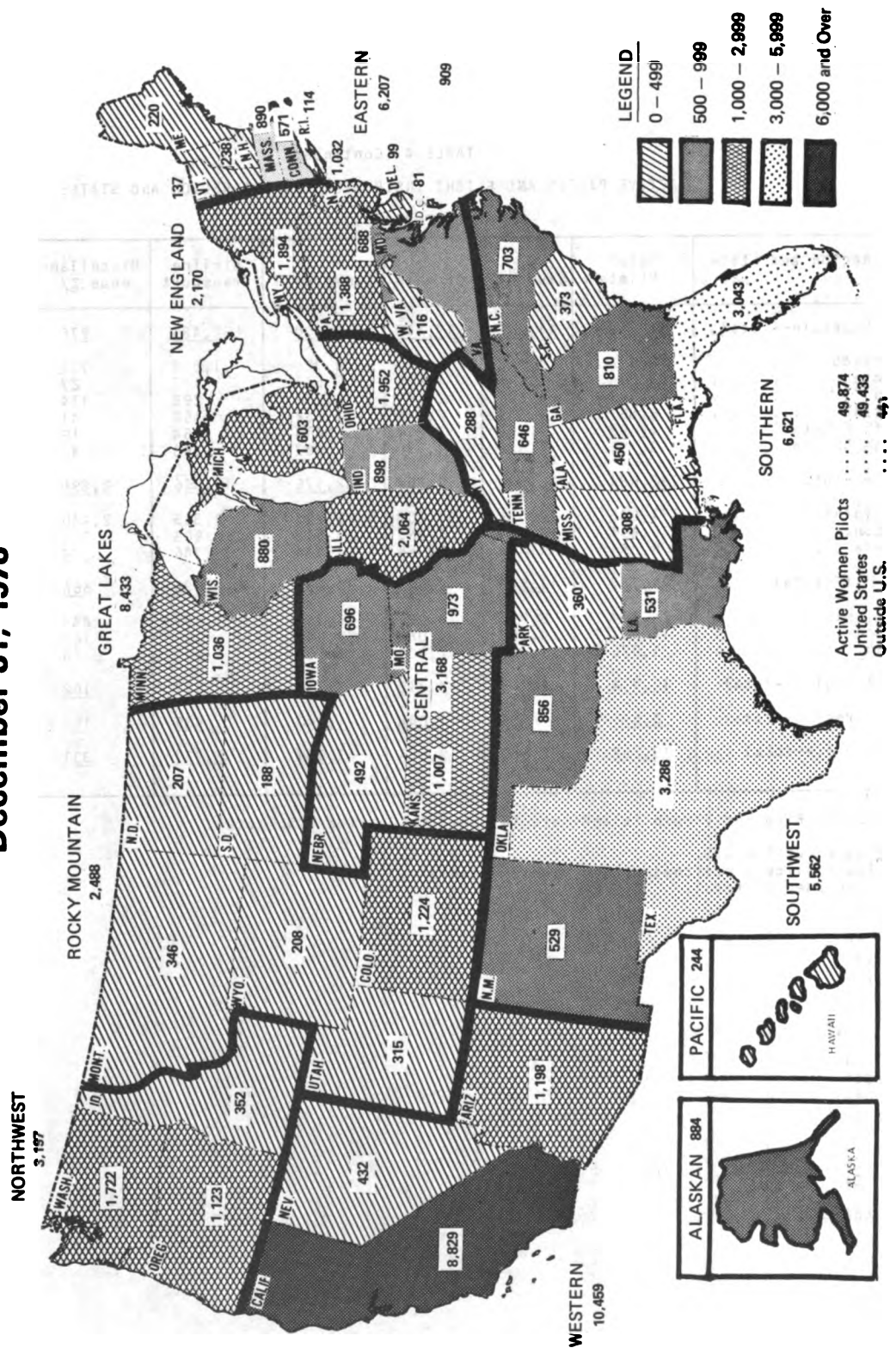


TABLE 5
ACTIVE WOMEN PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE:
DECEMBER 31, 1978

| FAA Region and State | Total Pilots | Student | Private | Commercial | Airline Transport | Miscellan- eous 2/ | Flight Instructor ^{3/} |
|--------------------------|----------------------|---------------|---------------|--------------|----------------------|-----------------------|------------------------------------|
| Total | 49,874 ^{1/} | 26,354 | 19,267 | 3,306 | 270 | 677 | 1,458 |
| United States--total | <u>49,433</u> | <u>26,090</u> | <u>19,147</u> | <u>3,262</u> | <u>264</u> | <u>670</u> | <u>1,445</u> |
| New England--total . . | <u>2,170</u> | <u>1,184</u> | <u>783</u> | <u>154</u> | <u>6</u> | <u>43</u> | <u>68</u> |
| Maine | 220 | 128 | 74 | 16 | 0 | 2 | 8 |
| New Hampshire | 238 | 138 | 83 | 16 | 1 | 0 | 7 |
| Rhode Island | 114 | 65 | 41 | 7 | 0 | 1 | 2 |
| Massachusetts | 890 | 467 | 339 | 64 | 1 | 19 | 24 |
| Connecticut | 571 | 317 | 194 | 41 | 3 | 16 | 20 |
| Vermont | 137 | 69 | 52 | 10 | 1 | 5 | 7 |
| Eastern--total | <u>6,207</u> | <u>3,392</u> | <u>2,252</u> | <u>418</u> | <u>26</u> | <u>119</u> | <u>187</u> |
| New York | 1,894 | 1,009 | 708 | 115 | 4 | 58 | 53 |
| Pennsylvania | 1,388 | 760 | 506 | 94 | 9 | 19 | 49 |
| Virginia | 909 | 509 | 333 | 55 | 6 | 6 | 28 |
| Maryland | 688 | 358 | 262 | 58 | 1 | 9 | 21 |
| West Virginia | 116 | 68 | 42 | 4 | 0 | 2 | 1 |
| Delaware | 99 | 60 | 34 | 4 | 0 | 1 | 2 |
| New Jersey | 1,032 | 585 | 339 | 78 | 6 | 24 | 29 |
| District of Columbia | 81 | 43 | 28 | 10 | 0 | 0 | 4 |
| Great Lakes--total . . | <u>8,433</u> | <u>4,378</u> | <u>3,369</u> | <u>546</u> | <u>43</u> | <u>97</u> | <u>235</u> |
| Illinois | 2,064 | 1,030 | 862 | 134 | 15 | 23 | 55 |
| Indiana | 898 | 468 | 355 | 68 | 3 | 4 | 29 |
| Minnesota | 1,036 | 532 | 442 | 51 | 3 | 8 | 20 |
| Michigan | 1,603 | 871 | 585 | 109 | 9 | 29 | 48 |
| Ohio | 1,952 | 1,027 | 742 | 146 | 9 | 28 | 65 |
| Wisconsin | 880 | 450 | 383 | 38 | 4 | 5 | 18 |
| Central--total | <u>3,168</u> | <u>1,574</u> | <u>1,363</u> | <u>186</u> | <u>10</u> | <u>35</u> | <u>88</u> |
| Kansas | 1,007 | 466 | 467 | 55 | 6 | 13 | 30 |
| Iowa | 696 | 354 | 300 | 33 | 0 | 9 | 14 |
| Missouri | 973 | 507 | 381 | 71 | 3 | 11 | 31 |
| Nebraska | 492 | 247 | 215 | 27 | 1 | 2 | 13 |
| Southern--total | <u>6,621</u> | <u>3,766</u> | <u>2,338</u> | <u>427</u> | <u>44</u> | <u>46</u> | <u>198</u> |
| North Carolina | 703 | 425 | 228 | 44 | 1 | 5 | 16 |
| South Carolina | 373 | 224 | 112 | 27 | 3 | 7 | 16 |
| Georgia | 810 | 486 | 265 | 41 | 10 | 8 | 24 |
| Florida | 3,043 | 1,642 | 1,147 | 214 | 23 | 17 | 103 |
| Mississippi | 308 | 191 | 93 | 20 | 2 | 2 | 12 |
| Alabama | 450 | 244 | 179 | 24 | 1 | 2 | 6 |
| Tennessee | 646 | 371 | 223 | 45 | 3 | 4 | 15 |
| Kentucky | 288 | 183 | 91 | 12 | 1 | 1 | 6 |
| Southwest--total . . . | <u>5,562</u> | <u>2,950</u> | <u>2,130</u> | <u>387</u> | <u>32</u> | <u>63</u> | <u>185</u> |
| Louisiana | 531 | 299 | 179 | 44 | 4 | 5 | 24 |
| Oklahoma | 856 | 403 | 391 | 54 | 3 | 5 | 25 |
| Texas | 3,286 | 1,788 | 1,232 | 221 | 21 | 24 | 106 |
| New Mexico | 529 | 257 | 209 | 31 | 4 | 28 | 15 |
| Arkansas | 360 | 203 | 119 | 37 | 0 | 1 | 15 |

TABLE 5 (Continued)
ACTIVE WOMEN PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE:
DECEMBER 31, 1978

| FAA Region and State | Total Pilots | Student | Private | Commercial | Airline Transport | Miscellan- eous 2/ | Flight Instructor3/ |
|-------------------------|-----------------|--------------|--------------|------------|----------------------|-----------------------|------------------------|
| Rocky Mountain--total . | <u>2,488</u> | <u>1,372</u> | <u>916</u> | <u>140</u> | <u>14</u> | <u>46</u> | <u>68</u> |
| Colorado | 1,224 | 665 | 431 | 82 | 8 | 38 | 37 |
| Wyoming | 208 | 129 | 71 | 8 | 0 | 0 | 4 |
| Utah | 315 | 170 | 116 | 17 | 5 | 7 | 14 |
| Montana | 346 | 193 | 133 | 19 | 1 | 0 | 5 |
| North Dakota | 207 | 102 | 92 | 13 | 0 | 0 | 7 |
| South Dakota | 188 | 113 | 73 | 1 | 0 | 1 | 1 |
| Western--total | <u>10,459</u> | <u>5,161</u> | <u>4,302</u> | <u>750</u> | <u>68</u> | <u>178</u> | <u>304</u> |
| California | 8,829 | 4,315 | 3,665 | 644 | 60 | 145 | 264 |
| Arizona | 1,198 | 614 | 468 | 81 | 4 | 31 | 27 |
| Nevada | 432 | 232 | 169 | 25 | 4 | 2 | 13 |
| Northwest--total . . . | <u>3,197</u> | <u>1,711</u> | <u>1,255</u> | <u>190</u> | <u>10</u> | <u>31</u> | <u>71</u> |
| Washington | 1,722 | 877 | 707 | 110 | 5 | 23 | 35 |
| Oregon | 1,123 | 633 | 418 | 62 | 4 | 6 | 29 |
| Idaho | 352 | 201 | 130 | 18 | 1 | 2 | 7 |
| Alaskan Region--total . | <u>884</u> | <u>465</u> | <u>363</u> | <u>49</u> | <u>6</u> | <u>1</u> | <u>29</u> |
| Pacific Region--total . | <u>244</u> | <u>137</u> | <u>76</u> | <u>15</u> | <u>5</u> | <u>11</u> | <u>12</u> |
| Outside U.S.--total . . | <u>441</u> | <u>264</u> | <u>120</u> | <u>44</u> | <u>6</u> | <u>7</u> | <u>13</u> |

NOTE: Puerto Rico and Virgin Islands are included in Outside U.S. total.

1/ Includes Outside U.S.

2/ Includes helicopter, glider, and lighter-than-air.

3/ Not included in total.

TABLE 6
ACTIVE HELICOPTER PILOTS BY CLASS OF CERTIFICATES:
DECEMBER 31, 1978

| Class of Certificates | Number of Certificates Held |
|--|-----------------------------------|
| Total | 28,890 |
| Private Helicopter | 290 |
| Private gyroplane, private airplane | 37 |
| Private helicopter, private airplane | 924 |
| Private helicopter, private airplane, private glider | 30 |
| Commercial airplane, private helicopter | 177 |
| Commercial airplane, commercial gyroplane, commercial glider, commercial helicopter | 15 |
| Commercial airplane, commercial glider, private helicopter | 9 |
| Private gyroplane | 5 |
| Private airplane, commercial glider, commercial helicopter | 11 |
| Commercial helicopter | 4,454 |
| Private airplane, commercial helicopter | 2,557 |
| Commercial airplane, commercial helicopter | 18,866 |
| Private airplane, private glider, commercial helicopter | 14 |
| Commercial airplane, private glider, commercial helicopter | 147 |
| Commercial airplane, commercial glider, commercial helicopter | 606 |
| Commercial helicopter, private glider | 3 |
| Commercial helicopter, commercial glider | 7 |
| Commercial gyroplane, commercial airplane | 36 |
| Commercial airplane, commercial gyroplane, commercial glider | 4 |
| Commercial airplane, commercial gyroplane, commercial helicopter | 32 |
| Commercial gyroplane, commercial helicopter, private airplane | 1 |
| Commercial helicopter, commercial gyroplane | 2 |
| Airline transport helicopter | 113 |
| Airline transport airplane, airline transport helicopter | 550 |

TABLE 7
ACTIVE GLIDER PILOTS BY CLASS OF CERTIFICATES:
DECEMBER 31, 1978

| Class of Certificates | Number of Certificates Held |
|--|-----------------------------------|
| Total | 18,610 |
| Private glider | 5,474 |
| Private airplane, private glider | 4,113 |
| Private airplane, private glider, private helicopter | 30 |
| Private airplane, private glider, commercial helicopter | 14 |
| Commercial airplane, private glider | 2,103 |
| Commercial airplane, private glider, commercial helicopter | 147 |
| Commercial helicopter, private glider | 3 |
| Private airplane, commercial glider | 564 |
| Private airplane, commercial glider, commercial helicopter | 11 |
| Commercial glider | 1,067 |
| Commercial airplane, commercial glider | 4,443 |
| Commercial airplane, commercial glider, private helicopter | 9 |
| Commercial airplane, commercial glider, commercial helicopter | 606 |
| Commercial helicopter, commercial glider | 7 |
| Commercial airplane, commercial gyroplane, commercial glider, commercial helicopter | 15 |
| Commercial airplane, commercial gyroplane, commercial glider | 4 |

TABLE 8
ACTIVE HELICOPTER AND GLIDER PILOTS:
DECEMBER 31, 1974-78

| Calendar Year | Total Helicopter Pilots <u>1/</u> | | Total Glider Pilots <u>2/</u> | |
|----------------|-----------------------------------|----------------|-------------------------------|----------------|
| | Number | Percent Change | Number | Percent Change |
| 1978 | 28,890 | + 1 | 18,610 | + 4 |
| 1977 | 28,566 | + 3 | 17,933 | + 6 |
| 1976 | 27,816 | - 1 | 16,866 | + 6 |
| 1975 | 27,872 | - 3 | 15,962 | + 6 |
| 1974 | 28,618 | +18 | 15,013 | +40 |

1/ Includes pilots with ratings to fly helicopters only.
2/ Includes pilots with ratings to fly gliders only.

TABLE 9
TOTAL AND INSTRUMENT RATED PILOTS:
DECEMBER 31, 1974-78

| Calendar Year | Total Pilots <u>1/</u> | Instrument Rated Pilots | |
|----------------|------------------------|-------------------------|------------------|
| | | Number | Percent of Total |
| 1978 | 593,959 | 236,312 | 40 |
| 1977 | 580,422 | 226,334 | 39 |
| 1976 | 555,625 | 211,364 | 38 |
| 1975 | 551,209 | 203,954 | 37 |
| 1974 | 552,933 | 199,323 | 36 |

1/ Excludes student pilots.

TABLE 10
AIRLINE TRANSPORT CERTIFICATES HELD,
BY SELECTED AGE GROUPS: 1969-1978

| Year | Total | Age Group | | |
|----------------|----------------------|----------------|----------------|----------------------|
| | | 20-34 Years | 35-44 Years | 45 Years and Over |
| | | Number | | |
| | | | | |
| 1969 | 31,442 | 5,611 | 10,510 | 15,321 |
| 1970 | 34,430 | 6,814 | 11,183 | 16,433 |
| 1971 | 35,949 | 7,087 | 11,838 | 17,024 |
| 1972 | 37,714 | 7,536 | 12,532 | 17,646 |
| 1973 | 38,139 | 7,588 | 12,587 | 17,964 |
| 1974 | 41,002 | 8,832 | 13,511 | 18,659 |
| 1975 | 42,592 | 9,242 | 14,028 | 19,322 |
| 1976 | 45,072 | 10,246 | 14,649 | 20,177 |
| 1977 | 50,149 | 11,847 | 16,663 | 21,639 |
| 1978 | 55,881 | 14,656 | 18,368 | 22,857 |
| | Percent Distribution | | | |
| 1969 | 100.0 | 17.9 | 33.4 | 48.7 |
| 1970 | 100.0 | 19.8 | 32.5 | 44.7 |
| 1971 | 100.0 | 19.7 | 32.9 | 47.4 |
| 1972 | 100.0 | 20.0 | 33.2 | 46.8 |
| 1973 | 100.0 | 19.9 | 33.0 | 47.1 |
| 1974 | 100.0 | 21.5 | 33.0 | 45.5 |
| 1975 | 100.0 | 21.7 | 32.9 | 45.4 |
| 1976 | 100.0 | 22.7 | 32.5 | 44.8 |
| 1977 | 100.0 | 23.6 | 33.2 | 43.1 |
| 1978 | 100.0 | 26.2 | 32.9 | 40.9 |

TABLE 11

ACTIVE PILOT CERTIFICATES HELD, BY CATEGORY AND AGE GROUP OF HOLDER: 1978, 1977, 1973

| Type of Pilot Certificates | | | | | | | | | | | | |
|----------------------------|---------------------|---------|---------|---------------|---------|---------|------------------|---------|---------|----------------------|---------|---------|
| Age Group | Total Active Pilots | | | Student | | | Private Airplane | | | Commercial Airplane | | |
| | 1978 | 1977 | 1973 | 1978 | 1977 | 1973 | 1978 | 1977 | 1973 | 1978 | 1977 | 1973 |
| Total . . | 798,833 | 783,933 | 714,607 | 204,874 | 203,510 | 181,905 | 337,644 | 327,424 | 298,921 | 185,833 | 188,763 | 182,444 |
| 14-15 . . . | 361 | 381 | 0 | 361 | 381 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16-19 . . . | 32,295 | 31,993 | 30,962 | 24,203 | 24,075 | 23,265 | 7,445 | 7,289 | 6,909 | 374 | 337 | 471 |
| 20-24 . . . | 93,546 | 93,318 | 88,196 | 46,153 | 46,224 | 44,432 | 36,405 | 35,712 | 31,442 | 10,402 | 9,773 | 10,151 |
| 25-29 . . . | 118,503 | 117,322 | 116,751 | 41,872 | 41,095 | 35,483 | 47,995 | 46,439 | 39,343 | 21,888 | 24,604 | 35,540 |
| 30-34 . . . | 131,012 | 127,721 | 110,142 | 32,722 | 31,983 | 26,220 | 49,989 | 47,508 | 41,802 | 35,006 | 37,175 | 35,176 |
| 35-39 . . . | 110,402 | 106,092 | 93,350 | 22,100 | 21,277 | 18,552 | 44,779 | 42,565 | 39,820 | 32,582 | 32,478 | 27,668 |
| 40-44 . . . | 89,250 | 88,244 | 86,312 | 14,411 | 14,453 | 14,183 | 38,271 | 37,383 | 41,534 | 26,062 | 26,722 | 22,949 |
| 45-49 . . . | 78,930 | 79,126 | 74,680 | 11,058 | 11,426 | 9,963 | 38,627 | 40,253 | 42,204 | 20,347 | 19,159 | 16,088 |
| 50-54 . . . | 63,994 | 64,834 | 63,889 | 7,232 | 7,032 | 5,731 | 35,985 | 35,534 | 28,990 | 14,178 | 15,508 | 20,622 |
| 55-59 . . . | 48,877 | 46,738 | 32,225 | 3,604 | 3,476 | 2,700 | 21,794 | 20,701 | 16,139 | 15,754 | 15,165 | 9,321 |
| 60 and over | 31,663 | 28,164 | 18,100 | 2,158 | 2,088 | 1,376 | 16,354 | 15,040 | 10,738 | 9,240 | 7,842 | 4,458 |
| Type of Pilot Certificates | | | | | | | | | | | | |
| | Helicopter (only) | | | Glider (only) | | | Lighter-than-air | | | Flight Instructor 1/ | | |
| | 1978 | 1977 | 1973 | 1978 | 1977 | 1973 | 1978 | 1977 | 1973 | 1978 | 1977 | 1973 |
| Total . . | 4,874 | 4,819 | 5,951 | 6,541 | 6,208 | 4,288 | 3,186 | 3,060 | 2,942 | 52,201 | 49,362 | 36,791 |
| 14-15 . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16-19 . . . | 10 | 10 | 5 | 243 | 264 | 292 | 20 | 18 | 19 | 137 | 102 | 127 |
| 20-24 . . . | 239 | 213 | 1,056 | 835 | 966 | 765 | 75 | 74 | 227 | 4,632 | 4,256 | 3,149 |
| 25-29 . . . | 1,254 | 1,609 | 3,077 | 1,090 | 999 | 576 | 190 | 164 | 312 | 7,972 | 7,768 | 7,755 |
| 30-34 . . . | 2,023 | 1,865 | 1,016 | 1,011 | 882 | 469 | 256 | 229 | 397 | 10,388 | 10,076 | 7,426 |
| 35-39 . . . | 733 | 608 | 409 | 706 | 633 | 419 | 342 | 352 | 421 | 8,401 | 7,877 | 5,213 |
| 40-44 . . . | 335 | 284 | 212 | 554 | 492 | 428 | 409 | 426 | 481 | 6,617 | 6,230 | 3,900 |
| 45-49 . . . | 167 | 148 | 111 | 547 | 572 | 459 | 519 | 513 | 421 | 4,934 | 4,512 | 3,111 |
| 50-54 . . . | 71 | 53 | 41 | 587 | 534 | 421 | 459 | 464 | 356 | 3,491 | 3,395 | 3,182 |
| 55-59 . . . | 31 | 21 | 17 | 487 | 465 | 267 | 462 | 437 | 194 | 3,261 | 3,106 | 1,812 |
| 60 and over | 11 | 8 | 7 | 481 | 401 | 192 | 454 | 393 | 114 | 2,368 | 2,040 | 1,116 |

1/ Not included in total active pilots.

TABLE 12

INSTRUMENT RATINGS HELD, BY CLASS OF CERTIFICATES: DECEMBER 31, 1977 AND 1978

| Class of Certificates | 1978 | 1977 | Percent Change 1977-1978 |
|---|----------------|----------------|-----------------------------|
| Total--all groups | 236,312 | 226,334 | + 4 |
| Private pilots--total | <u>32,470</u> | <u>29,367</u> | <u>+11</u> |
| Private airplane (only) | 30,090 | 27,243 | +10 |
| Private airplane, private glider | 730 | 674 | + 8 |
| Private airplane, commercial glider | 57 | 56 | + 2 |
| Private airplane, private helicopter | 211 | 180 | +17 |
| Private airplane, private glider, private helicopter | 10 | 9 | +11 |
| Private airplane, commercial helicopter | 1,354 | 1,188 | +14 |
| Private airplane, private gyroplane | 2 | 3 | -33 |
| Private airplane, private glider, commercial helicopter | 10 | 8 | +25 |
| Private airplane, commercial glider, commercial helicopter | 5 | 5 | 0 |
| Private airplane, other | 1 | 1 | 0 |
| Commercial pilots--total | <u>145,268</u> | <u>144,248</u> | <u>+ 1</u> |
| Commercial airplane (only) | 123,301 | 122,426 | + 1 |
| Commercial airplane, private glider | 1,672 | 1,580 | + 6 |
| Commercial airplane, commercial glider | 3,371 | 3,280 | + 3 |
| Commercial airplane, private helicopter | 128 | 119 | + 8 |
| Commercial airplane, commercial helicopter | 16,055 | 16,103 | - 1 |
| Commercial airplane, private glider, commercial helicopter | 127 | 117 | + 9 |
| Commercial airplane, commercial glider, commercial helicopter | 540 | 552 | - 2 |
| Commercial airplane, commercial gyroplane | 23 | 22 | + 5 |
| Commercial airplane, commercial helicopter, commercial gyroplane | 26 | 25 | + 4 |
| Commercial airplane, commercial gyroplane, commercial glider | 2 | 2 | 0 |
| Commercial airplane, commercial glider, private helicopter | 8 | 6 | +33 |
| Commercial airplane, commercial gyroplane, commercial helicopter, commercial glider | 15 | 16 | - 6 |
| Airline transport pilots--total | <u>55,881</u> | <u>50,149</u> | <u>+11</u> |
| Airline transport airplane | 55,331 | 49,698 | +11 |
| Airline transport airplane, airline transport helicopter | 550 | 451 | +22 |
| Rotorcraft pilots--total | <u>2,693</u> | <u>2,570</u> | <u>+ 5</u> |
| Commercial helicopter | 2,653 | 2,535 | + 5 |
| Airline transport helicopter | 30 | 25 | +20 |
| Rotorcraft, other | 10 | 10 | 0 |

TABLE 13
INSTRUMENT RATINGS HELD, BY CLASS OF CERTIFICATES, BY FAA REGION: DECEMBER 31, 1978

| Class of Certificate | Total | New England | Eastern | Great Lakes | Central | Southern | Southwest | Rocky Mountain | Western | Northwest | Alaskan | Pacific | Foreign |
|---|----------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|--------------|--------------|--------------|
| Total--all groups | <u>226,312</u> | <u>10,321</u> | <u>32,157</u> | <u>35,756</u> | <u>12,300</u> | <u>40,050</u> | <u>30,878</u> | <u>10,351</u> | <u>42,057</u> | <u>12,228</u> | <u>2,660</u> | <u>1,503</u> | <u>6,051</u> |
| Private pilots--total | <u>32,470</u> | <u>1,226</u> | <u>5,055</u> | <u>7,150</u> | <u>2,098</u> | <u>4,865</u> | <u>3,525</u> | <u>1,023</u> | <u>5,652</u> | <u>1,500</u> | <u>118</u> | <u>64</u> | <u>184</u> |
| Private airplane (only) | 30,090 | 1,144 | 4,713 | 6,836 | 1,975 | 4,337 | 3,197 | 921 | 5,327 | 1,358 | 91 | 36 | 155 |
| Private airplane, private glider | 730 | 46 | 143 | 133 | 21 | 102 | 65 | 19 | 163 | 28 | 2 | 2 | 11 |
| Private airplane, commercial glider | 57 | 5 | 9 | 8 | 1 | 7 | 7 | 6 | 9 | 5 | 0 | 0 | 0 |
| Private airplane, private helicopter | 211 | 6 | 32 | 42 | 12 | 35 | 27 | 5 | 27 | 22 | 1 | 0 | 2 |
| Private airplane, private glider, private helicopter | 10 | 0 | 3 | 2 | 0 | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 0 |
| Private helicopter, private airplane, commercial helicopter | 1,354 | 34 | 152 | 127 | 88 | 380 | 228 | 69 | 121 | 89 | 24 | 25 | 16 |
| Private airplane, private gyroplane | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Private airplane, private glider, commercial helicopter | 10 | 0 | 2 | 1 | 0 | 2 | 0 | 1 | 1 | 3 | 0 | 0 | 0 |
| Private airplane, commercial glider, commercial helicopter | 5 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Private airplane, other | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Commercial pilots--total | <u>145,268</u> | <u>5,777</u> | <u>19,766</u> | <u>21,568</u> | <u>7,870</u> | <u>24,966</u> | <u>19,673</u> | <u>6,723</u> | <u>25,133</u> | <u>7,946</u> | <u>1,826</u> | <u>946</u> | <u>3,074</u> |
| Commercial airplane (only) | 123,301 | 4,949 | 16,661 | 19,101 | 6,888 | 20,342 | 16,558 | 5,782 | 21,403 | 6,673 | 1,483 | 718 | 2,743 |
| Commercial airplane, private glider | 1,672 | 66 | 283 | 238 | 67 | 242 | 181 | 87 | 389 | 80 | 15 | 12 | 12 |
| Commercial airplane, commercial glider | 3,371 | 180 | 554 | 506 | 143 | 509 | 387 | 175 | 673 | 165 | 34 | 18 | 27 |
| Commercial airplane, private helicopter | 128 | 7 | 8 | 29 | 5 | 25 | 13 | 3 | 25 | 11 | 1 | 0 | 1 |
| Commercial airplane, commercial helicopter | 16,055 | 540 | 2,151 | 1,597 | 747 | 3,723 | 2,444 | 636 | 2,497 | 963 | 282 | 192 | 283 |
| Commercial airplane, private glider, commercial helicopter | 127 | 8 | 25 | 23 | 1 | 16 | 13 | 6 | 24 | 8 | 1 | 1 | 1 |
| Commercial helicopter | 540 | 24 | 80 | 63 | 17 | 95 | 70 | 30 | 101 | 40 | 8 | 5 | 7 |

TABLE 13 (Continued)
INSTRUMENT RATINGS HELD, BY CLASS OF CERTIFICATES, BY FAA REGION: DECEMBER 31, 1978

| Class of Certificate | Total | New England | Eastern | Great Lakes | Central | Southern | Southwest | Rocky Mountain | Western | Northwest | Alaskan | Pacific | Foreign |
|---|---------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|---------------|--------------|------------|------------|--------------|
| Commercial airplane, commercial gyroplane | 23 | 2 | 2 | 2 | 0 | 2 | 3 | 3 | 6 | 3 | 0 | 0 | 0 |
| Commercial airplane, commercial helicopter, commercial gyroplane | 26 | 1 | 0 | 3 | 2 | 5 | 4 | 1 | 8 | 2 | 0 | 0 | 0 |
| Commercial airplane, commercial gyroplane, commercial glider | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Commercial airplane, commercial glider, private helicopter | 8 | 0 | 1 | 3 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Commercial airplane, commercial gyroplane, commercial helicopter, commercial glider | 15 | 0 | 1 | 3 | 0 | 4 | 0 | 0 | 4 | 1 | 2 | 0 | 0 |
| Airline transport pilots--total | <u>55,881</u> | <u>3,225</u> | <u>6,981</u> | <u>6,838</u> | <u>2,221</u> | <u>9,434</u> | <u>7,199</u> | <u>2,489</u> | <u>11,016</u> | <u>2,635</u> | <u>667</u> | <u>439</u> | <u>2,737</u> |
| Airline transport airplane | 55,331 | 3,192 | 6,892 | 6,791 | 2,204 | 9,357 | 7,119 | 2,469 | 10,908 | 2,601 | 648 | 435 | 2,715 |
| Airline transport airplane, airline transport helicopter | 550 | 33 | 89 | 47 | 17 | 77 | 80 | 20 | 108 | 34 | 19 | 4 | 22 |
| Rotorcraft pilots--total | <u>2,693</u> | <u>83</u> | <u>355</u> | <u>200</u> | <u>111</u> | <u>785</u> | <u>481</u> | <u>116</u> | <u>256</u> | <u>147</u> | <u>49</u> | <u>54</u> | <u>56</u> |
| Commercial helicopter | 2,653 | 82 | 348 | 195 | 110 | 778 | 478 | 114 | 249 | 145 | 48 | 53 | 53 |
| Airline transport helicopter | 30 | 1 | 5 | 3 | 1 | 6 | 2 | 1 | 5 | 2 | 1 | 0 | 3 |
| Other | 10 | 0 | 2 | 2 | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 1 | 0 |

II. ACTIVE NONPILOT CERTIFICATES HELD

TABLE 14
ACTIVE NONPILOT AIRMEN CERTIFICATES HELD, BY FAA REGION AND STATE:
DECEMBER 31, 1978 1/

| FAA Region and State | Total Nonpilot Airmen | Mechanic | Parachute Rigger | Ground Instructor | Dispatcher | Control Tower Operator | Flight Navigator | Flight Engineer |
|------------------------|-----------------------------|----------|---------------------|----------------------|------------|------------------------------|---------------------|--------------------|
| Total | 362,350 | 228,743 | 9,200 | 57,738 | 6,161 | 25,388 | 2,092 | 33,028 |
| United States--total | 350,896 | 221,396 | 9,076 | 56,806 | 4,877 | 24,971 | 1,977 | 31,793 |
| New England--total . | 18,054 | 11,573 | 393 | 2,725 | 134 | 999 | 227 | 2,003 |
| Maine | 1,154 | 661 | 42 | 241 | 12 | 127 | 6 | 65 |
| New Hampshire . . . | 1,742 | 676 | 29 | 281 | 12 | 225 | 29 | 490 |
| Rhode Island | 926 | 579 | 48 | 189 | 4 | 51 | 4 | 51 |
| Massachusetts | 8,661 | 6,496 | 178 | 1,144 | 65 | 345 | 23 | 410 |
| Connecticut | 5,051 | 2,882 | 84 | 737 | 38 | 191 | 162 | 957 |
| Vermont | 520 | 279 | 12 | 133 | 3 | 60 | 3 | 30 |
| Eastern--total | 61,802 | 41,907 | 1,516 | 8,991 | 1,392 | 3,790 | 401 | 3,805 |
| New York | 26,624 | 19,024 | 368 | 3,341 | 1,073 | 1,616 | 152 | 1,050 |
| Pennsylvania | 13,563 | 10,006 | 320 | 2,018 | 87 | 573 | 61 | 498 |
| Virginia | 5,487 | 2,534 | 369 | 983 | 106 | 758 | 44 | 693 |
| Maryland | 3,185 | 1,817 | 133 | 666 | 18 | 247 | 14 | 290 |
| West Virginia | 989 | 565 | 46 | 225 | 3 | 123 | 1 | 26 |
| Delaware | 965 | 612 | 22 | 148 | 5 | 88 | 7 | 83 |
| New Jersey | 10,421 | 6,974 | 232 | 1,483 | 84 | 370 | 122 | 1,156 |
| District of Columbia | 568 | 375 | 26 | 127 | 16 | 15 | 0 | 9 |
| Great Lakes--total . | 46,154 | 28,144 | 1,203 | 9,121 | 440 | 3,226 | 67 | 3,953 |
| Illinois | 14,103 | 8,430 | 272 | 2,558 | 229 | 793 | 24 | 1,797 |
| Indiana | 4,581 | 2,797 | 191 | 912 | 21 | 452 | 7 | 201 |
| Minnesota | 7,483 | 4,615 | 137 | 1,188 | 98 | 358 | 9 | 1,078 |
| Michigan | 7,361 | 4,623 | 196 | 1,665 | 38 | 579 | 10 | 250 |
| Ohio | 9,198 | 5,693 | 281 | 1,989 | 41 | 786 | 13 | 395 |
| Wisconsin | 3,428 | 1,986 | 126 | 809 | 13 | 258 | 4 | 232 |
| Central--total | 19,495 | 13,207 | 428 | 3,627 | 133 | 1,138 | 12 | 950 |
| Kansas | 5,738 | 3,934 | 109 | 1,017 | 35 | 328 | 1 | 314 |
| Iowa | 2,726 | 1,719 | 89 | 658 | 8 | 178 | 0 | 74 |
| Missouri | 9,252 | 6,506 | 168 | 1,519 | 86 | 453 | 7 | 513 |
| Nebraska | 1,779 | 1,048 | 62 | 433 | 4 | 179 | 4 | 49 |
| Southern--total . . . | 56,162 | 32,740 | 1,652 | 8,806 | 1,005 | 5,657 | 294 | 6,008 |
| North Carolina . . . | 4,192 | 2,197 | 341 | 809 | 41 | 630 | 12 | 162 |
| South Carolina . . . | 1,996 | 890 | 86 | 452 | 7 | 420 | 6 | 135 |
| Georgia | 10,891 | 6,158 | 283 | 1,249 | 190 | 803 | 22 | 2,186 |
| Florida | 26,463 | 16,245 | 439 | 3,941 | 618 | 1,955 | 227 | 3,038 |
| Mississippi | 1,707 | 817 | 43 | 395 | 3 | 385 | 3 | 61 |
| Alabama | 5,527 | 3,651 | 131 | 859 | 100 | 698 | 6 | 82 |
| Tennessee | 3,703 | 1,918 | 161 | 754 | 40 | 521 | 14 | 295 |
| Kentucky | 1,683 | 864 | 168 | 347 | 6 | 245 | 4 | 49 |
| Southwest--total . . | 43,665 | 27,177 | 1,030 | 7,573 | 315 | 3,633 | 90 | 3,847 |
| Louisiana | 3,758 | 2,294 | 104 | 657 | 22 | 420 | 2 | 259 |
| Oklahoma | 10,169 | 7,603 | 186 | 1,571 | 19 | 575 | 11 | 204 |
| Texas | 26,036 | 15,320 | 595 | 4,459 | 251 | 2,086 | 68 | 3,257 |
| New Mexico | 1,849 | 948 | 80 | 433 | 12 | 316 | 6 | 54 |
| Arkansas | 1,853 | 1,012 | 65 | 453 | 11 | 236 | 3 | 73 |

TABLE 14 (Continued)
ACTIVE NONPILOT AIRMEN CERTIFICATES HELD, BY FAA REGION AND STATE:
DECEMBER 31, 1978 ^{1/}

| FAA Region and State | Total Nonpilot Airmen | Mechanic | Parachute Rigger | Ground Instructor | Dispatcher | Control Tower Operator | Flight Navigator | Flight Engineer |
|-----------------------|-----------------------------|---------------|---------------------|----------------------|--------------|------------------------------|---------------------|--------------------|
| Rocky Mountain--total | <u>13,297</u> | <u>7,186</u> | <u>567</u> | <u>2,792</u> | <u>150</u> | <u>1,056</u> | <u>48</u> | <u>1,498</u> |
| Colorado | 7,318 | 3,816 | 153 | 1,466 | 127 | 451 | 36 | 1,269 |
| Wyoming | 826 | 538 | 28 | 179 | 5 | 42 | 3 | 31 |
| Utah | 1,721 | 965 | 81 | 340 | 12 | 203 | 5 | 115 |
| Montana | 1,706 | 881 | 255 | 398 | 3 | 120 | 4 | 45 |
| North Dakota . . . | 847 | 493 | 22 | 181 | 2 | 132 | 0 | 17 |
| South Dakota . . . | 879 | 493 | 28 | 228 | 1 | 108 | 0 | 21 |
| Western--total . . . | <u>70,361</u> | <u>46,052</u> | <u>1,424</u> | <u>9,857</u> | <u>918</u> | <u>3,790</u> | <u>673</u> | <u>7,647</u> |
| California | 62,590 | 41,428 | 1,205 | 8,426 | 872 | 3,067 | 572 | 7,020 |
| Arizona | 5,818 | 3,783 | 168 | 1,051 | 28 | 489 | 22 | 277 |
| Nevada | 1,953 | 841 | 51 | 380 | 18 | 234 | 79 | 350 |
| Northwest--total . . | <u>15,660</u> | <u>9,323</u> | <u>693</u> | <u>2,473</u> | <u>174</u> | <u>1,070</u> | <u>137</u> | <u>1,790</u> |
| Washington | 10,920 | 6,451 | 334 | 1,587 | 150 | 732 | 97 | 1,569 |
| Oregon | 3,211 | 1,989 | 222 | 601 | 19 | 187 | 32 | 161 |
| Idaho | 1,529 | 883 | 137 | 285 | 5 | 151 | 8 | 60 |
| Alaskan Region--total | <u>3,449</u> | <u>2,157</u> | <u>118</u> | <u>591</u> | <u>109</u> | <u>315</u> | <u>8</u> | <u>151</u> |
| Pacific Region--total | <u>2,797</u> | <u>1,930</u> | <u>52</u> | <u>250</u> | <u>107</u> | <u>297</u> | <u>20</u> | <u>141</u> |
| Outside U.S.--total . | <u>11,454</u> | <u>7,347</u> | <u>124</u> | <u>932</u> | <u>1,284</u> | <u>417</u> | <u>115</u> | <u>1,235</u> |

NOTE: Puerto Rico and Virgin Islands are included in Outside of U.S. total.

^{1/} Data for control tower operators, flight engineers, and flight navigators represent total active ratings held. Data for dispatchers, mechanics, parachute riggers, and ground instructors, represent total ratings issued to date. These ratings retain their validity.

TABLE 15
ACTIVE WOMEN WITH NONPILOT CERTIFICATES HELD, BY FAA REGION AND STATE:
DECEMBER 31, 1978 1/

| FAA Region and State | Total | Mechanic | Parachute Rigger | Ground Instructor | Dispatcher | Control Tower Operator | Flight Engineer |
|---------------------------|-------|----------|---------------------|----------------------|------------|------------------------------|--------------------|
| Total | 5,135 | 600 | 544 | 2,682 | 76 | 1,151 | 82 |
| United States--total . . | 5,086 | 597 | 540 | 2,666 | 72 | 1,130 | 81 |
| New England--total . . . | 217 | 23 | 26 | 123 | 1 | 40 | 4 |
| Maine | 23 | 1 | 4 | 13 | 0 | 5 | 0 |
| New Hampshire | 17 | 0 | 0 | 9 | 0 | 7 | 1 |
| Rhode Island | 21 | 0 | 12 | 6 | 0 | 3 | 0 |
| Massachusetts | 89 | 8 | 6 | 60 | 0 | 15 | 0 |
| Connecticut | 60 | 14 | 3 | 30 | 1 | 9 | 3 |
| Vermont | 7 | 0 | 1 | 5 | 0 | 1 | 0 |
| Eastern--total | 698 | 63 | 63 | 370 | 18 | 182 | 2 |
| New York | 287 | 27 | 14 | 142 | 16 | 88 | 0 |
| Pennsylvania | 124 | 11 | 12 | 77 | 1 | 22 | 1 |
| Virginia | 97 | 3 | 27 | 37 | 0 | 30 | 0 |
| Maryland | 50 | 1 | 3 | 31 | 0 | 15 | 0 |
| West Virginia | 15 | 7 | 0 | 6 | 0 | 2 | 0 |
| Delaware | 13 | 4 | 1 | 4 | 0 | 4 | 0 |
| New Jersey | 98 | 10 | 5 | 63 | 1 | 18 | 1 |
| District of Columbia . . | 14 | 0 | 1 | 10 | 0 | 3 | 0 |
| Great Lakes--total . . . | 721 | 100 | 51 | 430 | 6 | 126 | 8 |
| Illinois | 213 | 27 | 9 | 137 | 3 | 33 | 4 |
| Indiana | 75 | 7 | 19 | 40 | 0 | 8 | 1 |
| Minnesota | 52 | 8 | 3 | 28 | 1 | 12 | 0 |
| Michigan | 141 | 24 | 5 | 80 | 1 | 30 | 1 |
| Ohio | 179 | 29 | 10 | 105 | 0 | 33 | 2 |
| Wisconsin | 61 | 5 | 5 | 40 | 1 | 10 | 0 |
| Central--total | 275 | 42 | 22 | 160 | 0 | 48 | 3 |
| Kansas | 90 | 18 | 6 | 52 | 0 | 12 | 2 |
| Iowa | 56 | 12 | 3 | 36 | 0 | 5 | 0 |
| Missouri | 101 | 10 | 11 | 58 | 0 | 21 | 1 |
| Nebraska | 28 | 2 | 2 | 14 | 0 | 10 | 0 |
| Southern--total | 967 | 74 | 127 | 479 | 17 | 259 | 11 |
| North Carolina | 113 | 11 | 37 | 39 | 0 | 26 | 0 |
| South Carolina | 49 | 2 | 3 | 26 | 0 | 17 | 1 |
| Georgia | 87 | 5 | 8 | 48 | 1 | 22 | 3 |
| Florida | 357 | 44 | 21 | 204 | 15 | 66 | 7 |
| Mississippi | 52 | 2 | 4 | 25 | 0 | 21 | 0 |
| Alabama | 165 | 2 | 6 | 86 | 1 | 70 | 0 |
| Tennessee | 94 | 3 | 36 | 32 | 0 | 23 | 0 |
| Kentucky | 50 | 5 | 12 | 19 | 0 | 14 | 0 |

TABLE 15 (Continued)

ACTIVE WOMEN WITH NONPILOT CERTIFICATES HELD, BY FAA REGION AND STATE:

DECEMBER 31, 1978 ^{1/}

| FAA region and state | Total | Mechanic | Parachute Rigger | Ground Instructor | Dispatcher | Control Tower Operator | Flight Engineer |
|----------------------------|------------|------------|---------------------|----------------------|------------|------------------------------|--------------------|
| Southwest--total | <u>735</u> | <u>57</u> | <u>121</u> | <u>398</u> | <u>4</u> | <u>145</u> | <u>10</u> |
| Louisiana | 61 | 1 | 2 | 38 | 0 | 20 | 0 |
| Oklahoma | 144 | 17 | 16 | 83 | 0 | 27 | 1 |
| Texas | 439 | 35 | 86 | 227 | 4 | 79 | 8 |
| New Mexico | 62 | 3 | 14 | 34 | 0 | 10 | 1 |
| Arkansas | 29 | 1 | 3 | 16 | 0 | 9 | 0 |
| Rocky Mountain--total . . | <u>223</u> | <u>16</u> | <u>23</u> | <u>133</u> | <u>3</u> | <u>42</u> | <u>6</u> |
| Colorado | 114 | 9 | 7 | 74 | 2 | 16 | 6 |
| Wyoming | 12 | 2 | 2 | 6 | 0 | 2 | 0 |
| Utah | 29 | 3 | 6 | 13 | 0 | 7 | 0 |
| Montana | 28 | 1 | 8 | 16 | 0 | 3 | 0 |
| North Dakota | 16 | 0 | 0 | 6 | 1 | 9 | 0 |
| South Dakota | 24 | 1 | 0 | 18 | 0 | 5 | 0 |
| Western--total | <u>946</u> | <u>178</u> | <u>76</u> | <u>436</u> | <u>11</u> | <u>213</u> | <u>32</u> |
| California | 831 | 165 | 62 | 376 | 11 | 186 | 31 |
| Arizona | 89 | 12 | 9 | 43 | 0 | 25 | 0 |
| Nevada | 26 | 1 | 5 | 17 | 0 | 2 | 1 |
| Northwest--total | <u>190</u> | <u>29</u> | <u>19</u> | <u>92</u> | <u>1</u> | <u>47</u> | <u>2</u> |
| Washington | 111 | 20 | 6 | 47 | 1 | 35 | 2 |
| Oregon | 61 | 5 | 12 | 34 | 0 | 10 | 0 |
| Idaho | 18 | 4 | 1 | 11 | 0 | 2 | 0 |
| Alaskan Region--total . . | <u>80</u> | <u>11</u> | <u>12</u> | <u>32</u> | <u>9</u> | <u>14</u> | <u>2</u> |
| Pacific Region--total . . | <u>34</u> | <u>4</u> | <u>0</u> | <u>13</u> | <u>2</u> | <u>14</u> | <u>1</u> |
| Outside U.S.--total . . . | <u>49</u> | <u>3</u> | <u>4</u> | <u>16</u> | <u>4</u> | <u>21</u> | <u>1</u> |

NOTE: Puerto Rico and Virgin Islands are included in Outside U.S. total.
There were no women with current certificates for flight navigator.

^{1/} Data for control tower operators, flight engineers, and flight navigators represent total active ratings held. Data for dispatchers, mechanics, parachute riggers, and ground instructors represent total ratings issued to date. These ratings retain their validity.

TABLE 16

ACTIVE NONPILOT CERTIFICATES HELD, BY CATEGORY AND AGE GROUP OF HOLDER: 1978, 1977, 1974

| Age Group | Type of Pilot Certificates | | | | | | | | | | | |
|---------------|----------------------------|---------|---------|------------------------|---------|---------|---------------------|-------|-------|----------------------|--------|--------|
| | Total Nonpilots | | | Mechanic 1/ | | | Parachute Rigger 1/ | | | Ground Instructor 1/ | | |
| | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 |
| | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 |
| Total . . | 362,350 | 348,584 | 314,394 | 228,743 | 220,768 | 198,863 | 9,200 | 8,994 | 7,900 | 57,738 | 55,717 | 49,249 |
| 14-15 | 19 | 13 | 13 | 4 | 4 | 6 | 0 | 0 | 0 | 15 | 9 | 7 |
| 16-19 | 687 | 617 | 446 | 573 | 514 | 303 | 4 | 2 | 10 | 70 | 55 | 72 |
| 20-24 | 15,390 | 14,730 | 12,893 | 9,556 | 8,632 | 7,501 | 291 | 362 | 492 | 2,142 | 2,088 | 1,682 |
| 25-29 | 30,766 | 31,270 | 35,686 | 17,334 | 18,020 | 21,837 | 1,191 | 1,325 | 1,212 | 4,562 | 4,517 | 4,926 |
| 30-34 | 49,590 | 47,977 | 41,840 | 28,288 | 28,001 | 22,858 | 1,526 | 1,458 | 1,217 | 7,289 | 7,375 | 6,219 |
| 35-39 | 46,266 | 43,896 | 38,756 | 24,986 | 23,331 | 20,209 | 1,350 | 1,297 | 1,298 | 6,870 | 6,119 | 4,068 |
| 40-44 | 40,905 | 39,857 | 38,077 | 22,932 | 23,067 | 24,531 | 1,370 | 1,347 | 1,070 | 4,539 | 4,107 | 3,366 |
| 45-49 | 38,732 | 36,876 | 33,582 | 26,107 | 25,450 | 24,174 | 996 | 874 | 708 | 3,831 | 3,832 | 4,255 |
| 50-54 | 38,261 | 38,387 | 46,293 | 26,649 | 28,027 | 32,619 | 725 | 735 | 714 | 5,133 | 5,791 | 8,127 |
| 55-59 | 45,362 | 43,526 | 32,209 | 32,534 | 31,008 | 22,226 | 678 | 614 | 469 | 8,303 | 8,217 | 6,850 |
| 60 and over . | 58,372 | 51,435 | 34,599 | 39,780 | 34,714 | 22,899 | 1,069 | 980 | 710 | 14,984 | 13,607 | 9,677 |
| | | | | | | | | | | | | |
| Age Group | Dispatcher 1/ | | | Control Tower Operator | | | Flight Navigator | | | Flight Engineer | | |
| | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 |
| | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 |
| | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 | 1978 | 1977 | 1974 |
| Total . . | 6,161 | 5,972 | 5,576 | 25,388 | 25,107 | 23,342 | 2,092 | 2,155 | 2,509 | 33,028 | 29,871 | 26,955 |
| 14-15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16-19 | 0 | 0 | 1 | 40 | 46 | 60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 40 | 30 | 23 | 2,925 | 3,309 | 3,063 | 0 | 0 | 0 | 436 | 309 | 132 |
| 25-29 | 233 | 225 | 292 | 5,289 | 5,561 | 5,825 | 1 | 1 | 9 | 2,156 | 1,621 | 1,585 |
| 30-34 | 551 | 576 | 613 | 6,055 | 5,490 | 3,602 | 13 | 31 | 224 | 5,868 | 5,046 | 7,107 |
| 35-39 | 736 | 691 | 614 | 3,362 | 3,290 | 4,032 | 304 | 401 | 611 | 8,658 | 8,767 | 7,924 |
| 40-44 | 669 | 677 | 672 | 3,316 | 3,351 | 3,367 | 575 | 561 | 468 | 7,504 | 6,747 | 4,903 |
| 45-49 | 667 | 650 | 661 | 2,576 | 2,272 | 1,296 | 353 | 317 | 307 | 4,202 | 3,481 | 2,181 |
| 50-54 | 722 | 750 | 898 | 816 | 815 | 1,240 | 280 | 303 | 474 | 1,936 | 1,966 | 2,121 |
| 55-59 | 936 | 962 | 866 | 763 | 757 | 615 | 385 | 406 | 348 | 1,763 | 1,562 | 835 |
| 60 and over . | 1,607 | 1,411 | 936 | 246 | 216 | 142 | 181 | 135 | 68 | 505 | 372 | 167 |

1/ Numbers represent all certificates on record. No medical examination required.

III. PILOT CERTIFICATES ISSUED

TABLE 17

PILOT CERTIFICATES ISSUED, BY CATEGORY: CALENDAR YEARS 1974-1978

| Category of Certificates | 1974 | | | 1975 | | | 1976 | | | 1977 | | | 1978 | | |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings | Original Issuances |
| Pilot--total | 185,914 | 38,700 | 193,888 | 35,395 | 204,489 | 39,112 | 212,331 | 44,708 | 208,563 | 39,959 | 208,563 | 39,959 | 208,563 | 39,959 | 208,563 |
| Student | 113,997 | 0 | 127,424 | 0 | 129,280 | 0 | 138,816 | 0 | 129,488 | 0 | 129,488 | 0 | 129,488 | 0 | 129,488 |
| Private | 48,501 | 9,866 | 49,733 | 9,734 | 55,583 | 12,618 | 54,657 | 15,104 | 58,064 | 16,048 | 58,064 | 16,048 | 58,064 | 16,048 | 58,064 |
| Commercial | 17,693 | 24,638 | 12,620 | 21,860 | 13,577 | 22,059 | 11,121 | 22,806 | 11,789 | 17,501 | 11,789 | 17,501 | 11,789 | 17,501 | 11,789 |
| Airline transport | 3,219 | 3,557 | 2,765 | 3,370 | 3,869 | 3,901 | 5,697 | 6,229 | 6,912 | 5,921 | 6,912 | 5,921 | 6,912 | 5,921 | 6,912 |
| Helicopter (only) | 1,298 | 387 | 866 | 251 | 1,064 | 276 | 944 | 328 | 1,122 | 287 | 1,122 | 287 | 1,122 | 287 | 1,122 |
| Glider (only) | 832 | 244 | 230 | 158 | 848 | 238 | 792 | 220 | 759 | 188 | 759 | 188 | 759 | 188 | 759 |
| Lighter-than-air | 374 | 8 | 250 | 22 | 268 | 20 | 304 | 21 | 429 | 14 | 429 | 14 | 429 | 14 | 429 |
| Nonpilot--total | 12,210 | 7,837 | 12,491 | 7,137 | 15,069 | 7,751 | 16,066 | 7,267 | 16,418 | 6,679 | 16,418 | 6,679 | 16,418 | 6,679 | 16,418 |
| Mechanic | 6,618 | 2,748 | 6,930 | 2,606 | 8,501 | 3,149 | 9,121 | 3,307 | 8,791 | 3,269 | 8,791 | 3,269 | 8,791 | 3,269 | 8,791 |
| Parachute rigger | 468 | 83 | 414 | 62 | 454 | 76 | 304 | 36 | 235 | 50 | 235 | 50 | 235 | 50 | 235 |
| Ground instructor | 2,416 | 852 | 2,193 | 714 | 2,390 | 707 | 2,404 | 729 | 2,193 | 574 | 2,193 | 574 | 2,193 | 574 | 2,193 |
| Dispatcher | 152 | 0 | 140 | 1 | 106 | 0 | 161 | 0 | 193 | 0 | 193 | 0 | 193 | 0 | 193 |
| Control tower operator | 1,733 | 3,979 | 2,164 | 3,657 | 2,382 | 3,686 | 1,645 | 3,008 | 1,391 | 2,540 | 1,391 | 2,540 | 1,391 | 2,540 | 1,391 |
| Flight navigator | 7 | 1 | 4 | 0 | 2 | 0 | 16 | 0 | 8 | 1 | 8 | 1 | 8 | 1 | 8 |
| Flight engineer | 816 | 174 | 646 | 97 | 1,234 | 133 | 2,415 | 187 | 3,607 | 245 | 3,607 | 245 | 3,607 | 245 | 3,607 |
| Flight instructor certificates 1/ | 6,312 | 3,399 | 5,233 | 3,427 | 6,137 | 4,718 | 6,352 | 6,397 | 5,930 | 5,375 | 5,930 | 5,375 | 5,930 | 5,375 | 5,930 |
| Instrument ratings* | 0 | 19,012 | 0 | 16,495 | 0 | 18,155 | 0 | 18,764 | 0 | 16,265 | 0 | 16,265 | 0 | 16,265 | 0 |

NOTE: Additional ratings are entered on current airman certificates as follows:

Private, commercial, and airline transport pilot--aircraft category, class, and type instrument rating.
 Helicopter pilot--instrument and type ratings.
 Flight instructor--ratings for each aircraft category in which the holder is qualified, and for instrument flying instruction.
 Mechanic--airframe and powerplant ratings.
 Parachute rigger--senior or master rigger ratings.
 Ground instructor--ratings for each subject in which the holder is qualified to give instruction.
 Air traffic control tower operator--junior/senior ratings for airports where holder may control air traffic.

* Special ratings shown on pilot certificates represented above; not to be added to total.

1/ Not included in total.

TABLE 18

PILOT CERTIFICATES ISSUED, BY CLASS OF CONDUCTOR: CALENDAR YEAR 1978

| Category of Certificates | Total Ratings Issued | Original Issuances | | | | Additional Ratings | | | |
|-----------------------------|----------------------------|--------------------|----------|-----------|---------|--------------------|----------|-----------|---------|
| | | Total | Examiner | Inspector | No Test | Total | Examiner | Inspector | No Test |
| Total | 271,619 | 224,981 | 75,222 | 137,713 | 12,046 | 46,638 | 35,801 | 7,178 | 3,659 |
| Pilot--total | 248,522 | 208,563 | 65,335 | 135,530 | 7,698 | 39,959 | 30,234 | 6,896 | 2,829 |
| Student | 129,488 | 129,488 | 0 | 129,488 | 0 | 0 | 0 | 0 | 0 |
| Private | 74,112 | 58,064 | 53,101 | 625 | 4,338 | 16,048 | 15,294 | 451 | 303 |
| Commercial | 29,290 | 11,789 | 8,843 | 303 | 2,643 | 17,501 | 14,002 | 1,114 | 2,385 |
| Airline transport | 12,833 | 6,912 | 2,059 | 4,779 | 74 | 5,921 | 691 | 5,211 | 19 |
| Helicopter (only) | 1,409 | 1,122 | 296 | 186 | 640 | 287 | 74 | 92 | 121 |
| Glider (only) | 947 | 759 | 697 | 60 | 2 | 188 | 160 | 27 | 1 |
| Lighter-than-air | 443 | 429 | 339 | 89 | 1 | 14 | 13 | 1 | 0 |
| Nonpilot--total | 23,097 | 16,418 | 9,887 | 2,183 | 4,348 | 6,679 | 5,567 | 282 | 830 |
| Mechanic | 12,060 | 8,791 | 6,534 | 267 | 1,990 | 3,269 | 2,888 | 138 | 243 |
| Parachute rigger | 285 | 235 | 157 | 46 | 32 | 50 | 39 | 10 | 1 |
| Ground instructor | 2,767 | 2,193 | 4 | 1 | 2,188 | 574 | 0 | 2 | 572 |
| Dispatcher | 193 | 193 | 56 | 133 | 4 | 0 | 0 | 0 | 0 |
| Control tower operator . . | 3,931 | 1,391 | 1,371 | 10 | 10 | 2,540 | 2,514 | 14 | 12 |
| Flight navigator | 9 | 8 | 0 | 7 | 1 | 1 | 0 | 1 | 0 |
| Flight engineer | 3,852 | 3,607 | 1,765 | 1,719 | 123 | 245 | 126 | 117 | 2 |
| Flight instructor* | 11,305 | 5,930 | 11 | 5,918 | 1 | 5,375 | 14 | 5,359 | 2 |

Note: Excludes renewals.

* Special ratings shown on pilot certificates represented above, not to be added to total. Additional ratings are entered on current airman certificates as follows: Private, commercial, and airline transport pilot--aircraft category, class, and type instrument ratings. Helicopter pilot--instrument and type ratings. Flight instructor--ratings for each aircraft category in which the holder is qualified to instruct, and ratings for instrument flying instruction. Mechanic--airframe and powerplant ratings. Parachute rigger--senior or master rigger ratings. Ground instructor--ratings for each subject in which the holder is qualified to give ground instruction. Air traffic control tower operator--junior/senior ratings for airports where holder may control air traffic.

TABLE 19

INSTRUMENT RATINGS ISSUED: 1978, 1977, 1974

| Class of Certificate | 1978 | 1977 | 1974 | Percent Change 1977-1978 |
|---|--------|--------|--------|--------------------------------|
| Total--all groups | 16,899 | 18,764 | 19,012 | -10 |
| Private pilots--total | 9,690 | 8,986 | 4,829 | +8 |
| Private airplane (only) | 9,032 | 8,415 | 4,391 | +7 |
| Private airplane, private glider | 127 | 127 | 59 | 0 |
| Private airplane, commercial glider | 6 | 4 | 1 | +50 |
| Private airplane, private helicopter | 27 | 26 | 7 | +4 |
| Private airplane, commercial helicopter | 225 | 180 | 246 | +25 |
| Private airplane, private glider, private helicopter | 1 | 0 | 0 | 0 |
| Private airplane, other | 272 | 234 | 125 | +16 |
| Commercial pilots--total | 6,575 | 9,232 | 13,037 | -29 |
| Commercial airplane (only) | 5,588 | 8,036 | 11,382 | -30 |
| Commercial airplane, private glider | 85 | 97 | 0 | -12 |
| Commercial airplane, commercial glider | 82 | 88 | 116 | -7 |
| Commercial airplane, private helicopter | 6 | 12 | 4 | -50 |
| Commercial airplane, commercial helicopter | 796 | 975 | 1,515 | -18 |
| Commercial airplane, private glider, commercial helicopter | 1 | 3 | 2 | -67 |
| Commercial airplane, commercial glider, commercial helicopter | 13 | 17 | 15 | -24 |
| Commercial airplane, other | 4 | 4 | 3 | 0 |
| Rotorcraft pilots--total | 634 | 546 | 1,146 | +16 |
| Commercial helicopter | 620 | 540 | 1,142 | +15 |
| Airline transport helicopter | 11 | 5 | 1 | +120 |
| Commercial helicopter, private glider | 1 | 1 | 1 | 0 |
| Commercial helicopter, commercial glider | 1 | 0 | 1 | 0 |
| Commercial helicopter, other | 1 | 0 | 1 | 0 |

TABLE 20

STUDENT CERTIFICATES ISSUED, BY MONTH: 1974-1978

| Month | 1978 | 1977 | 1976 | 1975 | 1974 |
|---------------------|---------|---------|---------|---------|---------|
| Total | 129,488 | 138,816 | 129,280 | 127,424 | 113,997 |
| January | 3,057 | 10,247 | 11,853 | 9,794 | 8,200 |
| February | 6,268 | 8,010 | 6,396 | 7,506 | 6,195 |
| March | 11,502 | 11,921 | 10,921 | 9,445 | 7,661 |
| April | 9,147 | 9,871 | 10,835 | 8,654 | 7,960 |
| May | 11,032 | 10,286 | 10,749 | 10,204 | 10,013 |
| June | 11,490 | 11,573 | 10,322 | 9,865 | 10,970 |
| July | 10,544 | 11,372 | 12,300 | 12,339 | 10,261 |
| August | 13,839 | 15,262 | 12,930 | 12,471 | 12,431 |
| September | 11,904 | 13,987 | 12,320 | 13,587 | 10,320 |
| October | 15,548 | 11,678 | 8,864 | 11,979 | 10,863 |
| November | 13,096 | 15,114 | 12,292 | 11,681 | 9,770 |
| December | 12,061 | 9,495 | 9,498 | 9,899 | 9,353 |

